

## **Metals Result Summary Cover Sheet**

**Client:** Foster Wheeler  
**Project:** Roxanna Marsh  
**SDG:** 920866C

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## Case Narrative

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**Client** FOSTER WHEELER  
**Project Name** ROXANNA MARSH  
**Project Number** 1980.0208.0100  
**SDG** 920866C  
**Fraction** METALS

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Lab Number	Sample ID	Collect Date	Rec Date	Matrix
920866-053	FW-RM-16-CS-0.7-2.0	3/21/2002	3/22/2002	SOIL
920866-054	FW-RM-16-CS-2.0-3.5	3/21/2002	3/22/2002	SOIL
920866-056	FW-RM-06-CS-0.7-2.3	3/21/2002	3/22/2002	SOIL
920866-057	FW-RM-06-CS-2.8-4.7	3/21/2002	3/22/2002	SOIL
920866-058	FW-RM-11-CS-0.7-2.4	3/21/2002	3/22/2002	SOIL
920866-059	FW-RM-11-CS-2.4-4.2	3/21/2002	3/22/2002	SOIL
920866-061	FW-RM-14-CS-0.7-2.0	3/21/2002	3/22/2002	SOIL
920866-062	FW-RM-14-CS-2.0-3.8	3/21/2002	3/22/2002	SOIL
920866-073	FW-RM-16-CS-0.7-2.0MS	3/21/2002	3/22/2002	SOIL
920866-074	FW-RM-16-CS-0.7-2.0MSD	3/21/2002	3/22/2002	SOIL
920866-075	MB4920866			SOIL
920866-076	MB4920866LCS			SOIL
920866-077	MB4920866LCSD			SOIL

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METALS

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: ROXANNA MARSH

SDG No.: 920866C

Lab Code: SOIL

Case No.: 920866C

SAS No.:

SOW No.:

Sample ID.	Lab Sample No.
FW-RM-16-CS-0.7-2.0	920866-053
FW-RM-16-CS-2.0-3.5	920866-054
FW-RM-06-CS-0.7-2.3	920866-056
FW-RM-06-CS-2.8-4.7	920866-057
FW-RM-11-CS-0.7-2.4	920866-058
FW-RM-11-CS-2.4-4.2	920866-059
FW-RM-14-CS-0.7-2.0	920866-061
FW-RM-14-CS-2.0-3.8	920866-062
FW-RM-16-CS-0.7-2.0MS	920866-073
FW-RM-16-CS-0.7-2.0MSD	920866-074
MB4920866	920866-075
MB4920866LCS	920866-076
MB4920866LCSD	920866-077

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before application of background corrections?

Yes/No NO

Comments:

Four horizontal lines for entering comments.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Linda Webb Gray

Name: Linda Webb Gray

Date: 4/29/02

Title: QA Auditor

**EN CHEM, INC**  
**CASE NARRATIVE – TOTAL METALS ANALYSIS**

**Lab Report Number (SDG):** 920866C

**Client:** Foster Wheeler

**Project Name:** Roxanna Marsh

**Project Number:** 1980.0208.0100

**1. RECEIPT**

The samples were received on ice.

**2. HOLDING TIMES**

- A. Sample Preparation:** All method - holding times were met.
- B. Sample Analysis:** All method - holding times were met.

**3. METHOD**

**Preparation:** EPA SW846 3051; 7471A

**Analysis:** EPA SW846 6010B; 7471A

**4. PREPARATION**

Sample preparation proceeded normally.

**5. ANALYSIS**

- A. Calibration:**
  - 1. Initial verification:** All method acceptance criteria were met.
  - 2. Continuing verification:** All method acceptance criteria were met.
- B. Blanks:**
  - 1. Initial calibration:** All method acceptance criteria were met.
  - 2. Continuing calibration:** All method acceptance criteria were met
  - 3. Method:** All acceptance criteria were met. Arsenic and Cadmium had negative values between the MDL and EQL. All samples are flagged with the "A" data qualifier.
- C. Spikes:**
  - 1. Lab Control Spike/Lab Control Spike Duplicate (LCS/LCSD):** All in-house accuracy and precision criteria were met.
  - 2. Matrix Spike / Duplicate (MS/MSD):** Sample FW-RM-16-CS-0.7-2.0 was designated as the MS/MSD for this SDG. All in-house accuracy criteria were met except for the recovery of lead. The parent sample is flagged with the "N" data qualifier. The precision criteria were met.
- D. Sample Duplicates:** Not applicable.
- E. Internal Standards:** Not applicable.
- F. Interference Check Samples:** All method acceptance criteria were met.
- G. Serial Dilution:** The method acceptance criteria were met for all analytes.
- H. Samples:** Sample analyses proceeded normally.
- I. Dilutions:** None required for this SDG.
- J. Reanalysis:** None required for this SDG.

**K. Comments: None.**

I certify that this data package is in compliance with the terms and conditions agreed to by **En Chem, Inc.** and by the client, both technically and for completeness, except for the conditions detailed above. The Laboratory Manager or his designee, as verified by the following signature, has authorized release of the data contained in this hard copy data package and in the computer-readable data submitted on diskette:

Signed: Linda Webb Gray Date: 4/29/02  
Name: Linda Webb Gray Position: Quality Assurance Auditor

**Inorganic Data Qualifiers**

- A Analyte is detected in the method blank. Method blank criteria are evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample-by-sample basis.
- B The analyte has been detected between the method detection limit and the reporting limit.
- C Elevated detection limit due to matrix effects.
- E Estimated concentration due to matrix interferences. During the metals analysis using the inductively coupled plasma (ICP), the serial dilution failed to meet the established control limits of 0-10% and the sample concentration is greater than 50 times the IDL (100 times the IDL for analysis done on the ICP-MS). The result was flagged with the E qualifier to indicate that a physical interference was observed.
- F Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
- H(n) Preservation or analysis performed "n" days past holding time (See Sample Narrative).
- K Sample received unpreserved. Sample was either preserved at the time of receipt or at the time of sample preparation.
- L Elevated detection limit due to low sample volume.
- N Spiked sample recovery not within control limits.
- Q The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
- U The analyte was not detected above the reporting limit.
- X See sample narrative.
- & Laboratory Control Spike recovery not within control limits.
- \* Duplicate analyses not within control limits.
- SUB1 Assay was subcontracted to an approved lab.
- SUB2 Assay was subcontracted to En Chem Green Bay WI Cert. #405132750.
- 1 Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
- 2 Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria. (See Sample Narrative).
- 3 BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
- 4 BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
- 5 BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
- 6 BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
- 7 BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.

Branch or Location: *Deer*  
 Project Contact: *Pam Moss*  
 Telephone: *303-980-3579*  
 Project Number: *1980-028-0102*  
 Project Name: *Examine Marsh*  
 Project State: *Indiana*  
 Sampled By (Print): *Bob Felgousch*

**EN CHEM INC.**  
**CHAIN OF CUSTODY**  
 1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2436  
 FAX 920-469-8827

525 Science Drive  
 Madison, WI 53711  
 608-232-3300  
 FAX: 608-233-0502

Page 1 of 1  
 P.O. # 78318  
 Mail Report To: *Pam Moss*  
 Company: *FWENC*  
 Address: *Lukens, Co*  
*Cary Brown*  
 Invoice To:  
 Company:  
 Address:  
 Mail Invoice To:  
 Company:  
 Address:

Preservation Codes  
 \*C-H2SO4  
 D-HNO3  
 E-EnCore  
 F-Methanol  
 G-NaOH  
 H=None  
 B-HCL  
 C=H2SO4  
 D-HNO3  
 E=EnCore  
 F=Other  
 FILTERED? (YES/NO)  
 PRESERVATION (CODE)

ANALYSES REQUESTED  
 TOTAL # OF BOTTLES SENT

LABORATORY ID (Lab Use Only)	FIELD ID	Data Package Options (please circle if requested) Results Only EnChem Level III (Subject to Surcharge) EnChem Level IV (Subject to Surcharge)	Regulatory Program		Matrix Codes W=Water S=Soil A=Air C=Charcoal B=Biota Sl=Sludge	COLLECTION		DATE	TIME	MATRIX	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
			UST RCRA SDWA NPDES CERCLA			DATE	TIME					
920866-047	FW-RM-19-CS-2040				S	3-21	0820	3-21	0820	S	4	Archive
048	FW-RM-19-CS-4054				S	3-21	0820	3-21	0820	S	4	Archive
049	FW-EM-19-CS-17-20				S	3-21	0820	3-21	0820	S	4	Archive
050	FW-RM-18-CS-07-23				S	3-21	0820	3-21	0820	S	4	Archive
051	FW-RM-18-CS-2343				S	3-21	0820	3-21	0820	S	4	Archive
052	FW-EM-18-CS-9363				S	3-21	0820	3-21	0820	S	4	Archive
053	FW-RM-16-CS-07-20				S	3-21	1145	3-21	1145	S	4	Archive
054	FW-EM-16-CS-2035				S	3-21	1145	3-21	1145	S	4	Archive
055	FW-EM-16-CS-5365				S	3-21	1145	3-21	1145	S	4	Archive

Rush Turnaround Time Requested (TAT) - Prelim  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (circle):  
 Phone Fax E-Mail  
 Phone #:  
 Fax #:  
 E-Mail Address:  
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *FedEx* Date/Time: *3-21-02 17:05*  
 Relinquished By: *FedEx* Date/Time: *3/22/02 1130*  
 Relinquished By: Date/Time:  
 Relinquished By: Date/Time:  
 Relinquished By: Date/Time:

Received By: *FedEx* Date/Time:  
 Received By: *Kyle Chover* Date/Time: *3/22/02 1030*  
 Received By: Date/Time:  
 Received By: Date/Time:  
 Received By: Date/Time:

En Chem Project No: *920866*  
 Sample Receipt Temp: *32.33/43*  
 Surphic Receipt Temp: *RO1*  
 Weighing: *OK*  
 Cooler Cartridge Seal: *OK*  
 (Present) Hot Protocol: *OK*  
 (Not Present) Hot Protocol: *OK*

**CHAIN OF CUSTODY**

78319

F=Methanol G=NaOH

\*Preservation Codes  
C=H2SO4 D=HNO3 E=Encore  
I=Other

A=None B=HCL C=H2SO4  
H=Sodium Bisulfate Solution  
I=Other

FILTERED? (YES/NO)

PRESERVATION (CODE)\*

Branch or Location: Darien  
Project Contact: Paul Moss  
Telephone: 303-980-3579  
Project Number: 1980-2208-000  
Project Name: Kayanna Marsh  
Project State: Texas  
Sampled By (Print): Bob Feldman

Data Package Options  
(please circle if requested)  
Results Only  
EnChem Level III (Subject to Surcharge)  
EnChem Level IV (Subject to Surcharge)

Regulatory Program  
UST  
PCRA  
SDWA  
NPDES  
CERCLA

Matrix Codes  
W=Water  
S=Soil  
A=Air  
C=Charcoal  
B=Bioa  
Sl=Sludge

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
920866-056	FW-RM-06-05-07-23	3-21	12:20	S
057	FW-RM-06-05-28-47	3-21	12:10	S
058	FW-RM-11-05-07-24	3-21	10:15	S
059	FW-RM-11-05-24-42	3-21	10:15	S
060	FW-RM-11-05-42-67	3-21	10:15	S
061	FW-RM-14-05-07-20	3-21	09:55	S
062	FW-RM-14-05-20-35	3-21	09:55	S
063	FW-RM-14-05-38-56	3-21	09:55	S

Rush Turnaround Time Requested (TAT) - Prelim  
(Rush TAT subject to approval/surcharge)

Date Needed:  
Transmit Prelim Rush Results by (circle):  
Phone Fax E-Mail

Phone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-Mail Address: \_\_\_\_\_

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature]  
Relinquished By: FedEx  
Relinquished By: \_\_\_\_\_

Date/Time: 3/22/02 10:30  
Date/Time: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

Received By: FedEx  
Received By: [Signature]  
Received By: \_\_\_\_\_

Date/Time: 3-21-02 17:00  
Date/Time: 3/22/02 10:30  
Date/Time: \_\_\_\_\_

En Chem Project No: 920866  
Sample Receipt Temp: 33.33H3  
Sample Receipt pH: \_\_\_\_\_  
(Metals) \_\_\_\_\_  
Cooler Custody Seal: OK  
Inspected? (Not Present) OK  
Integrity (Not Intact) \_\_\_\_\_

Date/Time: \_\_\_\_\_  
Date/Time: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

ANALYSES REQUESTED  
Matrix Size: 0.6  
pH: 11  
Temp: 10.6  
Turbidity: 10.6  
Total # of Bottles Sent: \_\_\_\_\_

LAB COMMENTS  
(Lab Use Only)

CLIENT COMMENTS

Mail Invoice To:

Address: Lakeview Co  
Invoice To: Gary Bruner  
Company: FWENC  
Address: Bothell, WA

Mail Report To: Paul Moss  
Company: FWENC

P.O. # \_\_\_\_\_

Page 1 of 1

Batch No. 920866

# En Chem, Inc. Cooler Receipt Log

Project Name or ID Roxanna Marsh

No. of Coolers: 7 Temps: 3, 2, 3, 3, 1, 4, 3 °C

A. Receipt Phase: Date cooler was opened: 3/22/02 By: RJC

- 1: Were samples received on ice? (Must be  $\leq 6$  C).....  YES  NO<sup>2</sup>
- 2: Was there a Temperature Blank?.....  YES  NO
- 3: Were custody seals present and intact? (Record on COC).....  YES  NO
- 4: Are COC documents present?.....  YES  NO<sup>2</sup>
- 5: Does this Project require quick turn around analysis?..... YES  NO
- 6: Is there any sub-work?.....  YES  NO
- 7: Are there any short hold time tests?.....  YES  NO
- 8: Are any samples nearing expiration of hold-time? (Within 2 days)..... YES<sup>1</sup>  NO
- 9: Do any samples need to be Filtered or Preserved in the lab?..... YES<sup>1</sup>  NO

Contacted by/Who \_\_\_\_\_  
Contacted by/Who \_\_\_\_\_

B. Check-in Phase: Date samples were Checked-in: 3/22/02 By: RJC

- 1: Were all sample containers listed on the COC received and intact?..... YES  NO<sup>2</sup> *broken lids - see NC NA RJC*
- 2: Sign the COC as received by En Chem. Completed.....  YES  NO
- 3: Do sample labels match the COC?.....  YES  NO<sup>2</sup>
- 4: Check sample pH of preserved samples. (Not VOCs) Completed.....  YES  NO  NA
- 5: Do samples have correct chemical preservation?.....  YES  NO<sup>2</sup>  NA
- 6: Are dissolved parameters field filtered?..... YES  NO<sup>2</sup>  NA
- 7: Are sample volumes adequate for tests requested?.....  YES  NO<sup>2</sup>
- 8: Are VOC samples free of bubbles >6mm..... YES  NO<sup>2</sup>  NA
- 9: Enter samples into logbook. Completed.....  YES  NO
- 10: Place laboratory sample number on all containers and COC. Completed.....  YES  NO
- 11: Complete Laboratory Tracking Sheet (LTS). Completed.....  YES  NO  NA
- 12: Start Nonconformance form.....  YES  NO  NA
- 13: Initiate Subcontracting procedure. Completed..... YES  NO  NA
- 14: Check laboratory sample number on all containers and COC.....  YES  NO  NA

Short Hold-time tests:

Hours or less	7 days	Footnotes 1 Notify proper lab group immediately. 2 Complete nonconformance memo.
Uniform (6 hrs)	Flashpoint	
Hexavalent Chromium (24 Hrs)	TSS	
Asbestos	Total Solids	
Ammonia or Nitrate	TDS	
Lead Level Mercury	Sulfide	
Ortho Phosphorus	Free Liquids	
Acidity	Total Volatile Solids	
Surfactants	<u>Aqueous Extractable Organics- ALL</u>	
Oil	Unpreserved VOC's	
Core Preservation	Ash	
or		

Reviewed by/date MAZ/as

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-16-CS-0.7-2.0

Collection Date : 3/21/02

Lab Sample Number : 920866-053

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.590	0.590	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	10	13	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0478	0.959	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	110	13	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	1.8	2.6	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00864	0.639	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	23	13	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0331	1.38	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.336	1.13	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	150	13	mg/Kg	N	04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.249	0.347	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.40	0.096	mg/Kg		04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.716	0.716	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.313	1.22	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	3.2	2.6	mg/Kg		04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	3.3	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 14	14	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	0.00249	0.666	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	3.47	1.38	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	2.47	1.10	umole/g		04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-16-CS-2.0-3.5

Collection Date : 3/21/02

Lab Sample Number : 920866-054

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.421	0.421	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	1.8	8.8	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0200	0.684	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	65	8.8	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 1.8	1.8	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00166	0.456	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	19	8.8	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0295	0.985	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.174	0.806	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	8.4	8.8	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.0555	0.247	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.024	0.068	mg/Kg	B	04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.511	0.511	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.115	0.873	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	< 1.8	1.8	mg/Kg		04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	3.4	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 10	10	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.475	0.475	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	0.836	0.985	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	0.435	0.783	umole/g	BAE	04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-06-CS-0.7-2.3

Collection Date : 3/21/02

Lab Sample Number : 920866-056

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

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### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.400	0.400	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	3.6	9.7	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0423	0.650	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	52	9.7	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 1.9	1.9	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00499	0.434	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	19	9.7	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.118	0.937	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.392	0.767	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	17	9.7	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.156	0.235	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.059	0.065	mg/Kg	B	04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.486	0.486	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.237	0.830	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	< 1.9	1.9	mg/Kg		04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	6.1	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 9.7	9.7	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.452	0.452	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	2.16	0.937	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	1.20	0.745	umole/g		04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-06-CS-2.8-4.7

Collection Date : 3/21/02

Lab Sample Number : 920866-057

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

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### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.305	0.305	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	< 6.5	6.5	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	< 0.497	0.497	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Barium	8.5	6.5	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 1.3	1.3	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.000740	0.331	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	4.0	6.5	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0156	0.715	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.0318	0.585	umole/g	BA	04/16/02	EPA DRAFT	EPA DRAFT
Lead	3.1	6.5	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.0131	0.180	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	< 0.050	0.050	mg/Kg		04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.371	0.371	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.0412	0.634	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	< 1.3	1.3	mg/Kg		04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	1.6	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 7.0	7.0	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.345	0.345	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	0.292	0.715	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	0.179	0.569	umole/g	BA	04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-11-CS-0.7-2.4

Collection Date : 3/21/02

Lab Sample Number : 920866-058

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	0.00718	0.542	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	5.2	12	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0713	0.880	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	79	12	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 2.5	2.5	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00693	0.587	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	18	12	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0485	1.27	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.332	1.04	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	28	12	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.234	0.318	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.055	0.088	mg/Kg	B	04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.658	0.658	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.261	1.12	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	1.6	2.5	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	8.6	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 13	13	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.611	0.611	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	2.70	1.27	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	1.74	1.01	umole/g		04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-11-CS-2.4-4.2

Collection Date : 3/21/02

Lab Sample Number : 920866-059

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.358	0.358	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	3.3	7.5	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0256	0.581	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	30	7.5	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 1.5	1.5	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00111	0.388	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	9.5	7.5	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0361	0.838	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.149	0.685	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	7.5	7.5	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.0676	0.210	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.015	0.058	mg/Kg	B	04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.434	0.434	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.110	0.742	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	0.98	1.5	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	4.1	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 8.7	8.7	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.404	0.404	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	0.843	0.838	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	0.448	0.666	umole/g	BA	04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-14-CS-0.7-2.0

Collection Date : 3/21/02

Lab Sample Number : 920866-061

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

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### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	0.0237	0.630	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	13	15	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.133	1.02	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	110	15	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	1.4	3.0	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.0324	0.682	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	27	15	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0365	1.47	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.635	1.21	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	230	15	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Lead - SEM	1.40	0.370	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.41	0.10	mg/Kg		04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.765	0.765	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.439	1.31	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	2.0	3.0	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	1.7	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 14	14	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.711	0.711	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	10.2	1.47	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	7.52	1.17	umole/g		04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 5/6/02

Field ID : FW-RM-14-CS-2.0-3.8

Collection Date : 3/21/02

Lab Sample Number : 920866-062

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - SEM	< 0.455	0.455	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Arsenic	2.0	9.4	mg/Kg	BA	04/06/02	SW846 3051	SW846 6010B
Arsenic - SEM	0.0339	0.740	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Barium	41	9.4	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Cadmium	< 1.9	1.9	mg/Kg	A	04/06/02	SW846 3051	SW846 6010B
Cadmium - SEM	0.00111	0.493	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Chromium	11	9.4	mg/Kg		04/06/02	SW846 3051	SW846 6010B
Chromium - SEM	0.0173	1.07	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Copper - SEM	0.170	0.872	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Lead	8.6	9.4	mg/Kg	B	04/06/02	SW846 3051	SW846 6010B
Lead - SEM	0.0453	0.268	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Mercury	0.025	0.074	mg/Kg	B	04/09/02	SW846 7471A	SW846 7471A
Mercury - SEM	< 0.553	0.553	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Nickel - SEM	0.124	0.945	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Selenium	1.9	1.9	mg/Kg		04/06/02	SW846 3051	SW846 6010B
SEM/AVS Ratio	2.6	0.0			04/16/02	EPA DRAFT	EPA DRAFT
Silver	< 9.6	9.6	mg/Kg		04/06/02	SW846 3050B	SW846 6010B
Silver - SEM	< 0.514	0.514	umole/g		04/16/02	EPA DRAFT	EPA DRAFT
Simultaneously Extracted Metals	0.680	1.07	umole/g	B	04/16/02	EPA DRAFT	EPA DRAFT
Zinc - SEM	0.281	0.848	umole/g	BA	04/16/02	EPA DRAFT	EPA DRAFT

All soil results are reported on a dry weight basis unless otherwise noted.